Mr. K's IB Physics IA Self Evaluation Form

Name_____Total Mark____/24

Personal Engagement:
Did you?

- □ Address person connection with the topic.
- □ Demonstrate critical thinking.
- □ Demonstrate creativity or initiative.
- □ Complete = 2 marks

Exploration:

- □ Clearly stated research question.
- □ Includes appropriate physics concepts, with a derived hypothesis from first principles.
- □ Procedure clearly stated.
- □ Includes appropriate experimental and/or research techniques. – good range of data with multiple trials with appropriate controls (minimum 24 measurements)
- □ Awareness of ethical, safety and environmental considerations.
- □ Fully complete = 6 marks

Analysis:

- □ Is the correct data graphed with an equation derived with units and uncertainties?
- □ Are sample calculations shown?
- □ Is the data graphed with units, labels, uncertainty bars, best-fit and max/min lines?
- □ Are the uncertainty calculations shown for the sample calculations and slope?
- □ Is the equation written out with variables, units and uncertainties?

(y=0.5043x+4.53 Wrong F = 0.50+/- 0.03Nm^{-1} L + 4.53 +/- 0.04N Right)

- □ Fully complete = 6 marks

Evaluation

- □ Give a conclusion that follows from the data with a statement of the uncertainty.
- □ If you have a quantitative hypothesis(and you should) compare it to your results with a restatement of your uncertainty and the deviation from the theoretical value(error)

Something like "the data supports my hypothesis that the period of a pendulum is proportional to the square root of its length within an uncertainty of 5% and the slope was 7% off the theoretical value of 2pi/g".

- □ Is there an extension of your hypothesis required to explain the results or that has come to light through the investigation?
- □ List sources of uncertainties with an estimate of the quantitative influence. Comment on the significance (friction is usually more significant than air resistance at low speeds).
- □ Classify as random(scattered) or systematic(shifted).
- □ Give evidence from data that supports your evaluation. For example: in a simple pendulum, there was a larger sway to the stand on points with lengths 15 cm, 25 cm and 60 cm. On the graph, those data points had no larger deviation from the best-fit line than other points. Therefore, the sway is not an important source of uncertainty. (Note: collecting qualitative data helps with this step)
- □ Future improvements to the investigation listed. Equipment must be specified. ("More precise instruments" = 0)
- □ Fully complete = 6 marks

Communication:

- □ Clearly structured. Can I easily find each part when I read it?
- □ Everything is relevant to the research questions and succinct (between 6-12 pages)
- □ No errors in the use of physics terminology.
- □ Fully complete = 4 marks.

Physics IBHL IA

Name_____Block_____

Timeline:

September 8th hand in this sheet with variables and equipment listed. Go to the lab and find what you need. If you are bringing equipment from home, give it to me to lock up so you won't forget it on the 12th.

September 12th and 14th collect your data and analyze it. I will stay in the lab on the until 4:30. Organize your time to be done in that time frame. Most of your 10 hours should be spent on preparation, research and analysis.

6-12 page report due September 28th worth 15% of first term. I'm not allowed to edit your paper but I can give it back to you with general suggestions for improvement. I will go over that timeline after I finish looking them over (could be a couple of weeks could be term 2).

IA Topic:

Dependent variable:

Independent variable:

Controls:

Equipment/environment (dark? quiet?) request:

Physics IBSL IA

Name_____Block_____

Timeline:

September 11th hand in this sheet with variables and equipment listed. Go to the lab and find what you need. If you are bringing equipment from home, give it to me to lock up so you won't forget it on the 13th.

September 13th and 15th (clubs day) collect your data and analyze it. I will open the lab at 8:00AM. Organize your time to be done in that time frame. Most of your 10 hours should be spent on preparation, research and analysis.

6-12 page report due October 3rd worth 15% of first term. I'm not allowed to edit your paper but I can give it back to you with general suggestions for improvement. I will go over that timeline after I finish looking them over (could be a couple of weeks could be term 2).

IA Topic:

Dependent variable:

Independent variable:

Controls:

Equipment/environment (dark? quiet?) request: